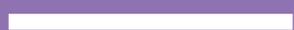




Portfolio Changes Q&A



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Towards the end of 2020, EBI announced plans for some upcoming changes to their portfolio suits. These changes include the removal of ETFs and Global Property, the inclusion of additional Factors, pioneering new fund launches in the UK, and increasing the portfolios' ESG credentials.

This document, together with the included annexes, contains answers to your questions on the upcoming transition, introduces new elements of the portfolios and includes a breakdown of each of the Factors contained within.

Choose a question

- Q1. Why have you decided to simplify your portfolio and why are you now choosing to focus on sustainability as your main portfolio proposition?
- Q2. How does the move to ESG impact upon costs and returns for investors?
- Q3. Your new portfolio has fewer funds than my current one. Does that make it less diversified?
- Q4. How does your Ongoing Charges Figure (OCF) for this new portfolio compare with those of your existing portfolio suites?
- Q5. The new portfolio has some managers that I am unfamiliar with. What can you tell me about Northern Trust, GSI and Arabesque?
- Q6. You have focused on sustainability within the equity asset class, what about the bond element?
- Q7. Why has property been removed?
- Q8. Why have ETFs been removed?
- Q9. Can you explain what a Minimum Volatility factor is and why include it as an additional factor to Value, Small and Momentum?
- Q10. What asset allocation changes have been made?
- Q11. Why have you reduced the Emerging Markets holding?
- Q12. I have previously been invested in the Global portfolio which had a weighting of 40% in the Value factor. Value has underperformed over recent years and could revert to mean in the near future. Is now a good time to decrease the weighting towards the Value factor?
- Q13. What discounts have EBI negotiated?
- Q14. I have only just invested in to Earth and there were ETF trading costs. Will there be more trading costs investing in the new Earth portfolio?
- Q15. As an investor – do I need to do anything?
- Q16. What will happen with the Vital portfolio and how does the cost differ?

Q1. Why have you decided to simplify your portfolio range and why are you now choosing to focus on sustainability as your main portfolio proposition?

A. While we at EBI are bought into sustainability, and are committed to upholding our pledge and obligations as signatories to the United Nations Global Compact (UNGC), we are also acutely aware that our primary focus in all we do must be our investors. As such, any decisions we make must fully address any possible additional costs to investors, and any adverse impact on their future returns and investment objectives.

While we have held the notion of where we wished to go for some time, the marketplace was not quite ready to join us initially. In some areas where we sought investment vehicles that both addressed ESG concerns and delivered our core factor exposure needs, the range of available options was limited, and in some instances more problematic for small investors to invest in. In other areas, there were literally no solutions available in this area of the marketplace.

We have worked to source solutions by partnering with best-of-breed investment professionals to help us provide a superior portfolio solution, with both structuring and cost basis that is competitive with, and in most instances beats, our previous costs. All this, and a leading-edge approach to ESG investment principles and philosophy from some of the sharpest minds in the business.

Q2. How does the move to ESG impact upon costs and returns for investors?

A. We conducted a study using [stock indices](#) for various global regions compared to the same index with ESG added. This analysis showed that ESG adds to performance while reducing volatility. In addition, drawdowns [i.e. the decline from the peak value] were lessened, and the time it took the portfolio to rebound to previous highs was at least on par with that for the non-ESG series, and in most cases better. The notion that ESG investing costs more and returns less is simply not reflected in reality.

In short: we truly do feel that we have built a better portfolio.

Q3. Your new portfolio has fewer funds than my current one. Does that make it less diversified?

A. Our core mission is one of factor-based investing, and as such we seek diversification among factors, as it is these factors that have proven empirically over many years to lead to superior risk-adjusted returns.

Our existing portfolios have enabled us to obtain a diverse set of factor exposures, but involved us selecting instruments for inclusion that proved sub-optimal for UK-based retail investors.

Our goal was to ensure that we obtain our desired mix of factor exposures using instruments that were structured in a more investor-friendly manner and came at level of fees that made the new portfolio competitive with our existing ones, while delivering enhanced return and risk readings.

Our new portfolio is the result of that effort on our part, and we now have a portfolio with an equal (or better) diversification of factor exposures, and boasting superior return and risk metrics.

Q4. How does your Ongoing Charges Figure (OCF) for this new portfolio compare with those of your existing portfolio suites?

A. Please refer to table below:

| Pre and Post Transition Ongoing Charges Fees (OCF) in basis points | | | |
|--|----------------|-----------------|------------|
| Portfolio | Pre-transition | Post-transition | Difference |
| World | 26 | 29 | 3 |
| Global | 27 | 29 | 2 |
| Earth | 32 | 29 | -3 |
| UK Bias* | 30 | 32 | 2 |

*NB - UK Bias will transition to New UK Bias, not New Earth

Q5. The new portfolio has some managers that I am unfamiliar with. What can you tell me about Northern Trust, GSI and Arabesque?

A. Northern Trust is the 18th largest asset manager in the world, with AUM of \$1.3 trillion (slightly ahead of the largest in the UK, Legal & General, with AUM of \$1.2 trillion). The company boasts over 30 years' experience in the sustainability space, and have pioneered research in this area. The funds we have elected to partner on are versions of pre-existing funds that they manage in other jurisdictions. We are delighted and proud to be working with them in bringing those strategies to the UK retail market.

Global Systematic Investors (GSI) will be familiar to investors in our existing Earth portfolio, but not to those in World, Global or UK-Bias. GSI was founded in 2011 by two of the key architects of Dimensional Fund Advisors success in the UK market, as well as two other industry veterans who can each boast a minimum of 25 years of industry experience in several areas of the world. The co-CIO, Garrett Quigley was an 18 year veteran of DFA, serving as chairman of their London investment committee, before electing to integrate ESG considerations into his management style. The firms other co-CIO, Bernd Hanke, brings 15 years investment experience to the table, with stints at GSA Capital in London and Goldman Sachs in new York under his belt prior to GSI. In collaboration with EBI, GSI are now taking that sustainability commitment to a new level, and we are happy to be partnering with them in shaping the portfolio to proactively address those considerations.

Arabesque is, much like GSI, the result of a 'brain drain' from an established institution; in this case Barclays. The team was formed in 2013 as a result of a management buyout of a division of Barclays

Capital, and is headed by chairman Georg Kell, who had previously worked under Kofi Annan at the United Nations, and was a founding executive director of the United Nations Global Compact (UNGC) prior to joining Arabesque, while CEO, Omar Selim, had previously held positions at UBS, Morgan Stanley, Credit Suisse and Barclays before assuming the reins at Arabesque. The company is a pioneer in the use of sustainability metrics and machine learning in the finance field, and their proprietary 'S-Ray' platform provides the quant-driven bedrock of their analysis.

Q6. You have focused on sustainability within the equity asset class, what about the bond element?

A. The short answer to this is: bonds are next.

The longer answer is that it is incredibly tough to focus on sustainability in a bond portfolio. In the present landscape we would have to focus our efforts on corporate debt to see tangible differences in a sustainability approach, as there is currently a dearth of offerings along the lines of government and/or agency bonds.

Since our current bond portfolio consists of low duration, high quality, sterling hedged instruments, we are very much focused on minimizing exposures to interest rate, default or currency risks. Our fixed income portfolio is primarily intended as a counterbalance to the equity market, and the two need to be viewed in union, much as the accelerator and brake on a car – the accelerator gets you where you're headed, but the brake ensures you get there without crashing.

We are in the very early stages of investigating this area, with a view toward collaborating with managers who are not only managing products that address the corporate (both investment-grade and high-yield) bond arena, but also are seeking to develop methodologies to evaluate global government debt offerings to incorporate ESG considerations.

Q7. Why has property been removed?

A. We choose factors that are robust and carry a factor premium, and monitor them over time to ensure that this thesis holds. For a long time, we only had two such available factors (Value and Size), and so an allocation to property was felt to be merited for diversification purposes, as its correlations with our other factors warranted its inclusion in a diversified factor-based approach. As other factors were seen to merit inclusion, the initial diversification need for property was seen to be met to a large degree through investing in these other factors. Since the housing crisis, and with the ensuing disruption brought about by COVID-19, property is no longer viewed as the safe haven hedge against volatility in other markets that it had been previously (more on that topic in [this paper](#)). In short: it no longer meets our criteria for inclusion in our portfolio.

Q8. Why have ETFs been removed?

A. ETFs were problematic for some investors with regular contributions to their accounts. While funds routinely allow for fractional ownership to several decimal places, ETFs do not. Accordingly, it posed issues for some people whose incremental contributions, when broken down to this level, were insufficient to allow them to purchase the minimum whole unit.

Additionally, not all platforms allow trading in ETFs, meaning some clients were effectively 'locked out' of keeping their portfolio in line with our model due to these platform restrictions. ETF trading costs vary hugely from platform to platform, making efficient trading difficult to accomplish for all investors. Regular monthly investments, the norm for many investors, more often than not cannot be invested in ETFs as the contributions are not sufficient to buy a whole share. The costs, if fixed rather than percentage-based (as many platforms are) can be disproportionately high; investors could face investing £500 in 5 ETFs, incurring a minimum charge of £15 per ETF.

Q9. Can you explain what a Minimum Volatility factor is and why include it as an additional factor to Value, Small and Momentum?

A. A Minimum Volatility strategy seeks to forfeit some of the market upside during a bull market in order to insulate itself from some of the negative effects of a bear market, such that the returns forfeited are outweighed by the losses avoided. The strategy benefits from that asymmetry.

Stated another way, it sacrifices some of the upside 'spring' in order to provide more downside 'cushion'. It is included because it meets our criteria for inclusion and is accretive to the risk-adjusted performance of the portfolio as a whole.

Please reference [Annex 1: Factor Factsheets](#)

Q10. What asset allocation changes have been made?

A. The primary change made is that we have decided that Property no longer made a compelling case for inclusion, and our reasoning for this is given in answer to Question #7 above.

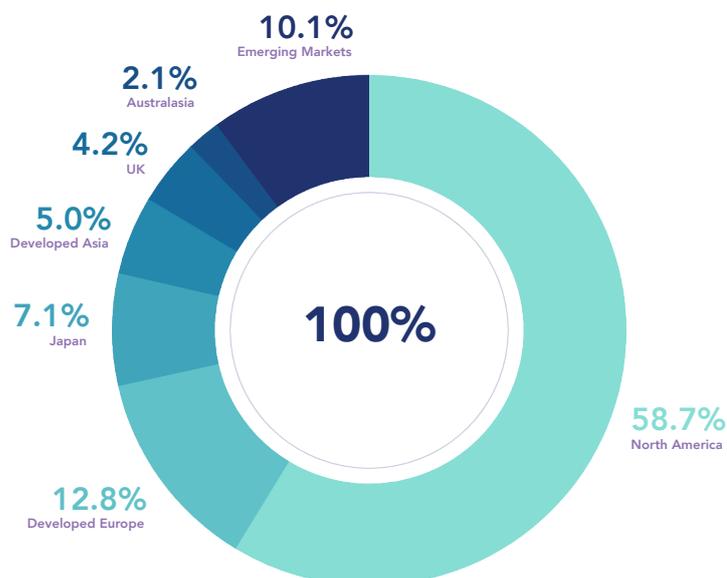
Minimum Volatility, by contrast, has continued to exhibit the characteristics we seek for factor inclusion, and we have now managed to create, in concert with our fund partner Northern Trust, a vehicle suitable for the UK retail investor that harnesses this factor premium.

We have also elected to evenly weight our factor exposures, and while we are aware that any weighting decision is ultimately an asset allocation one, this is in keeping with our core value of not market timing or seeking to engage in tactical asset allocation.

Q11. Why have you reduced the Emerging Markets holding?

A. As at the time of writing, the predominant broad global equity market index, the MSCI ACWI IMI Index, is carrying an emerging market weighting of 10%, and so our new portfolio is in line with this index exposure.

MSCI ACWI Regional Breakdown (as at 31st January, 2021)



Q12. I have previously been invested in the Global portfolio which had a weighting of 40% in the Value factor. Value has underperformed over recent years and could revert to mean in the near future. Is now a good time to decrease the weighting towards the Value factor?

A. While we are long-term, buy-and-hold investors, and do not engage in market timing or tactical asset allocation, that is not to say that there aren't some decisions that we can only make when the appetite of the market at large is such that those ideas have a strong tailwind. Inclusion of a broader array of factors and the switch to sustainable investing are cases in point.

For a long time, being a factor-based investor was synonymous with being invested in Value and Size (i.e. small cap stocks). As the field developed, however, other style traits of stocks led to the identification of a factor premium for additional factors, such as Momentum, Quality and Minimum Volatility.

As fund providers have become increasingly aware of this, we have been fortunate enough to have been given additional options in structuring our portfolios to incorporate a variety of factors that provide a preferable risk/reward profile (although in some instances we still needed to take a very active hand in helping to develop these products).

When combined in our portfolios, these additional factors either provide a superior return for a given level of risk or else, put another way, they provide the same return but at lesser risk.

Our focus is in selecting the combination of factors that best provides for strong risk-adjusted returns over the long-term, and achieving our investors' investment objectives. Diversification among multiple factors permits those risks to be spread more evenly among different traits, and any resulting reduction in the weighting of a particular factor in the name of the greater good of the portfolio should be viewed as a boon, and not an impediment.

Q13. What discounts have EBI negotiated?

A. Please refer to below table:

| Discounted OCF | | | |
|-------------------------|--------------|----------------|-------------------|
| Portfolio | Original OCF | Discounted OCF | Discount received |
| Vantage New Earth 100 | 0.40 | 0.29 | 0.11 |
| Vantage New UK Bias 100 | 0.39 | 0.32 | 0.07 |

Q14. I have only just invested in to Earth and there were ETF trading costs. Will there be more trading costs investing in the new Earth portfolio?

A. Platforms may charge brokerage fees for trading ETFs. As you will be selling out of ETFs, you are likely to incur brokerage fees. These fees, however, are also likely to be minimal. Some platforms aggregate the trades and split the fee proportionately amongst all investors. You should check the fee structure for your chosen platform directly with your provider. The new Earth portfolio does not contain ETFs.

Q15. As an investor – do I need to do anything?

A. Clients invested in our Vantage discretionary portfolio service do not need to do anything, as EBI will complete the changes. Such clients may wish to discuss changes with their adviser, however, to gain a better understanding. In addition, those with General Investment Accounts (GIAs) may need to consider any capital gains tax implications that these trades may trigger.

For investors using our Vital service, these changes will need to be approved by your IFA, and these clients should speak to their financial adviser about completing the changes to their portfolio to invest in EBI's Earth investment solution.

Q16. What will happen with the Vital portfolio and how does the cost differ?

A. EBI will create a new version of the Vital portfolios, incorporating the new funds. Investors should speak to their financial adviser about moving over to the latest version. The costs of the new Vital portfolios are outlined below:

| Vital vs Vantage OCF | | |
|-------------------------|-----------|-------------|
| Portfolio | Vital OCF | Vantage OCF |
| Vantage New Earth 100 | 0.40 | 0.29 |
| Vantage New UK Bias 100 | 0.39 | 0.32 |

Factor Facts

Minimum Volatility



What is the Minimum-Volatility Factor?

Traditional investment principles demand that investors take additional risk for higher reward, as risk and reward go hand-in-hand. The Minimum-Volatility (Min-Vol) investment approach turns the traditional approaches on their head: stocks which exhibit lower volatility have returns above that which would be implied by the efficient market theory. Min-Vol strategies, therefore, seek to enhance risk-adjusted returns by insulating investors on the downside to a greater extent than they relinquish on the upside (essentially, they seek to gain more downside 'cushion' than they sacrifice in upside 'spring').



What is a Minimum-Volatility Stock?

A Min-Vol stock can be identified by a single variable: volatility; a measure of dispersion in the stock's price movements, with higher volatility signifying more risk. Min-Vol stocks exhibit lower volatility compared to their peers.



Minimum-Volatility Factor History

The first contribution came as early as 1972 when Robert Haugen and James Heins produced the paper "On the Evidence Supporting the Existence of Risk Premiums in the Capital Market". The paper found that between 1926 and 1971 there was a negative relationship between risk and return showing that high volatility stocks tended to deliver lower returns, while low volatility stocks tended to outperform. Decades later there have been several papers that empirically show that the Minimum Volatility anomaly exists.



The Explanation

The idea that Minimum Volatility stocks have a premium is counterintuitive to conventional investment thinking which dictates that higher rewards are inextricably linked with higher risk. Over the decades there have been multiple behavioural explanations as to why the Minimum Volatility Factor premium exists, predominantly:

Skewness preference - Many investors prefer the lottery-like payoffs of high volatility stocks which have the possibility of enormous returns. This preference will often result in investors overpaying.

Behavioural biases - Investors are often overconfident and overpay for attention-grabbing stocks. Such stocks garner increased media coverage, which tends to increase volatility, generating demand which leads to overvaluation of volatile stocks.

Key Papers



- 1972 - Haugen & Heins - 'On the Evidence Supporting the Existence of Risk Premiums in the Capital Market'
- 2013 - Baker, Bradley & Wurgley - Benchmarks as Limits to Arbitrage: Understanding the Low Volatility Anomaly
- 2020 - Alquist, Frazzini & Ilmanen - Fact and Fiction about Low-Risk Investing

The value of investments can go down as well as up & it is possible to get back less than the amount invested.
Past performance is not a reliable indicator of future performance.

Factor Facts

Momentum



What is the Momentum Factor?

The Momentum factor is the tendency for assets that have performed well in the recent past to continue to perform well in the future, at least for a short period of time.



What is a Momentum Stock?

Momentum tends to look at a stock's last 12 months of price movements, excluding the most recent month. Stocks are assigned a Momentum score based on how strong or poor their returns are, and those with the highest scores are bought.



Momentum Factor History

Mark Carhart, in his seminal study "On Persistence in Mutual Fund Performance", was the first to use Momentum together with the Fama-French three factor model to explain mutual fund returns. This "fourth" factor increased the explanatory power of returns and the four factor model became the widely accepted model in this area.



The Explanation

Most of the academic literature in this area focuses on investors' behavioural traits to explain the Momentum anomaly; namely: investor underreaction or delayed overreaction.

Underreaction

Underreaction results when the information flow is not fully absorbed by the market at the time of its release, with the resulting price impact being slow to be realised. The result is that the market tends to underreact to corporate earnings and dividend announcements, and consequently overlooks small, but persistent, price moves (a practice commonly referred to as "limited attention bias". The market at large is slow to react to positive information, allowing prices to fall for longer than they should.

Delayed overreaction

Delayed overreaction results from investors who chase returns; providing a positive reinforcement loop that serves to drive prices further above those suggested by their underlying fundamentals.

Key Papers



- 1993 - Jagadeh & Titman - Returns to Buying Winners and Selling Losers: Implications for stock Market Efficiency
- 1997 - Carhart, M - On Persistence in Mutual Fund Performance
- 2014 - Da, Guran & Umit - Frog in the Pan: Continuous Information and momentum

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Factor Facts

Quality



What is the Quality Factor?

The Quality factor is the phenomenon whereby profitable firms generate higher returns than unprofitable firms, despite having significantly higher valuation ratios.



What is a Quality Stock?

A high-quality firm is generally one that exhibits stable earnings, low financial leverage, and high asset turnover. Aside from these balance sheet measures, however, Quality stocks are also considered to be ones with a solid 'economic moat', meaning that they possess some distinguishing factor that is difficult for competitors to mimic (patents, brand identity, etc.)



History

The first major contribution came from Robert Novy-Marx with his 2013 paper "The Other Side of Value: The Gross Profitability Premium", which in itself built upon Fama & French's paper 2006 paper, "Profitability, Investment and Average Returns". These studies found that Profitability (as measured by the ratio of gross profits to book-to-market value) identified companies that generated significantly higher returns than unprofitable firms, despite having significantly higher valuation ratios.



The Explanation

Academic research provides some support for both risk-based and behavioural explanations.

Risk

Profitable firms tend to be growth firms, which have more of their cash flows in the distant future, requiring a risk premium. Profitable firms also attract more competition, increasing uncertainty and requiring a risk premium.

Behavioural

Investors expect stock prices of profitable firms to mean-revert faster than they actually do, often curtailing returns from early exit. It is psychologically preferable to back the revival of the unprofitable firms than to expect continued strength in superior firms. Investors underreact to news concerning profitability and hence high-profitability firms become relatively under-priced.

Key Papers



- 2006 - Fama & French - Profitability, Investment and Average Returns
- 2013 - Robert Novy-Marx - The Other Side of Value: The Gross Profitability Premium
- 2016 - Bouchaud et al - The Excess Returns of "Quality" Stocks: A Behavioural Anomaly
- 2016 - Lam, Wang & Wei - The Profitability Premium: Macroeconomic Risks of Expectation Errors

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Factor Facts

Size



What is the Size Factor?

The Size factor pertains to the phenomenon whereby companies with a lower market capitalisation (i.e. small companies), exhibit a returns premium over companies with a large market capitalisation.



What is a Small Stock?

A Size (Small-Cap) stock can be identified by market capitalisation. Labelling Small-Cap stocks may be different depending on the circumstance. Generally, a company with a market cap of between US\$300 million and \$2 billion is defined as a Small-Cap stock. Other methods can also be used, for example, when looking at an index, the bottom 15% of companies with the lowest market-cap could be labelled as Small-Cap.



History

Academic papers have evidenced the existence of a Small-Cap premium since 1936. Nobel prize winner Eugene F. Fama and Kenneth R. French are widely credited for solidly establishing the Small-Cap premium with their three-factor model, which became the foundation of academic research.



The Explanation

Risk

It's argued that there are clear and simple risk-based explanations for the Size premium. These firms typically have higher financial leverage (debt), less liquidity, lower profitability and higher volatility, all of which demand a premium.

Behavioural

An explanation for the Size factor can be found in behavioural finance; Nicholas Barberis and Ming Huang's paper 'stocks as lotteries: The implication of profitability weighting for security prices' found investors prefer investments that have a lottery-like payoff with a small probability of a huge return. This results in the securities being overpriced, but due to the expense and limited supply of Small-Cap stocks investors are unwilling to trade against the overpriced stocks, allowing the anomaly to persist.

Key Papers



- 1992 - Fama & French - The Cross-Section of Expected Stock Returns
- 1993 - Fama & French - Common risk factors in the returns on stocks and bonds
- 2008 - Barberis & Huang - Stocks as Lotteries: The Implications of Probability Weightings for Security Pricing
- 2015 - Asness et al. - Size Matters, If You Control Your Junk
- 2019 - Esakia et al. - Size Factor in Multifactor Portfolios: Does the Size Factor Still Have Its Place in Multifactor Portfolios?

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Factor Facts Value



What is the Value Factor?

The Value factor is the tendency for relatively cheap assets to outperform relatively expensive ones.



What is a Value Stock?

The most common measures used to identify a Value firm are Price-to-Earnings (P/E) and Book-to-Market. Stocks with a market capitalisation (value of outstanding shares) close to its book value (value of its assets) are considered Value stocks.



Value Factor History

The Value factor has a long history in financial research, dating back to the 1930s and the seminal work of Benjamin Graham, the universally-acclaimed 'father of value investing', and has maintained prominence in no small part due to the exploits of Warren Buffett, a one-time student and protégé of Ben Graham. Subsequent work was carried out by Eugene Fama and Kenneth French in their 1992 paper "The Cross-Section of Expected Stock Returns". They found that firms with a high Book-to-Market ratio outperformed those with a lower Book-to-Market ratio.



The Explanation

There has been great debate as to the source of the Value premium. There is a belief among many academics that the Value premium is actually an anomaly and the result of persistent pricing errors made by investors.

Risk

Value stocks are cheap because they tend to be highly leveraged (high debt), face substantial earnings risk and in distress. They, therefore, provide greater returns due to the greater risks. Furthermore, it's argued that Value stocks are much riskier than growth stocks in bad economic times and moderately less risky in good times, resulting in asymmetric risk with unproductive capital.

Behavioural

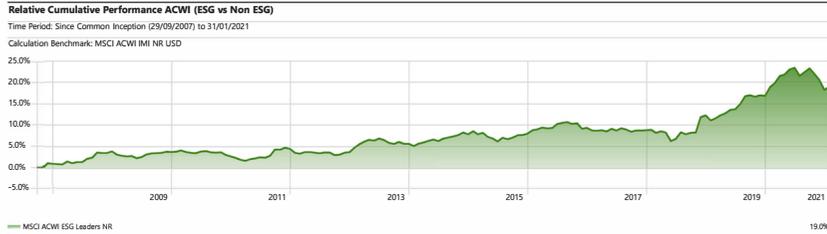
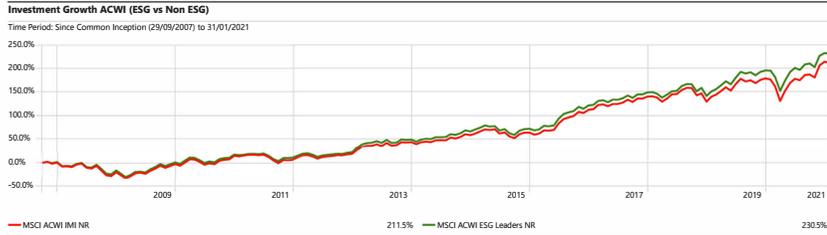
Investors tend to extrapolate past growth rates when evaluating a company, and thus place undue emphasis on those inflated results, persistently over-pricing Growth companies and under-pricing Value companies.

Key Papers



- 1934 - Graham & Dodd - Security Analysis
- 1992 - Fama & French - The Cross-Section of Expected Stock Returns
- 1998 - Chen & Zhang - Risk and Return of Value Stocks
- 2005 - Zhang - The Value Premium
- 2005 - Nielsen & Peterkort - Is the Book-To-Market Ratio a Measure of Risk?

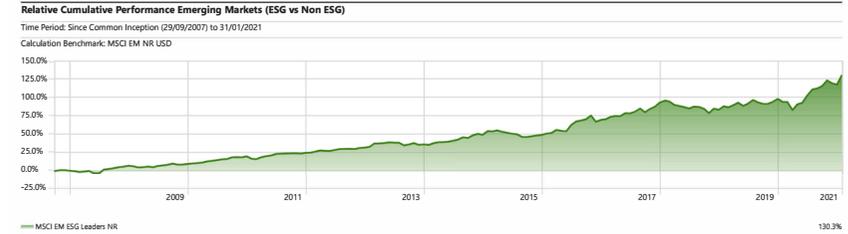
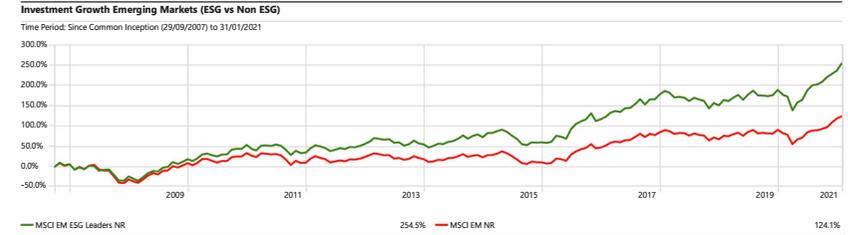
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Ratio Table
 Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|--------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI ACWI IMI NR | 8.90 | 14.40 | -34.57 | 13.00 | 0.32 |
| MSCI ACWI ESG Leaders NR | 9.38 | 13.84 | -31.68 | 12.00 | 0.35 |

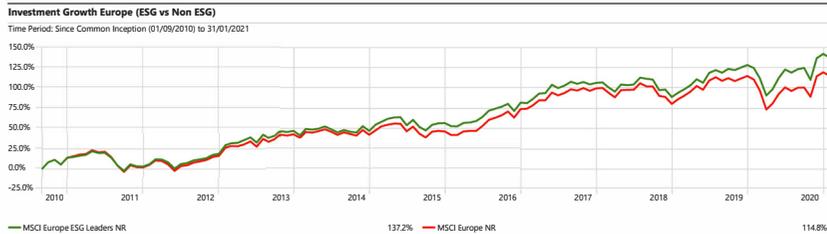
Source: Morningstar Direct



Ratio Table
 Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI EM NR | 6.24 | 18.95 | -45.36 | 15.00 | 0.17 |
| MSCI EM ESG Leaders NR | 9.96 | 18.47 | -40.46 | 10.00 | 0.33 |

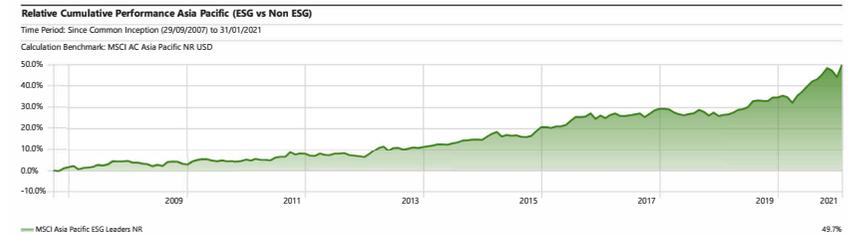
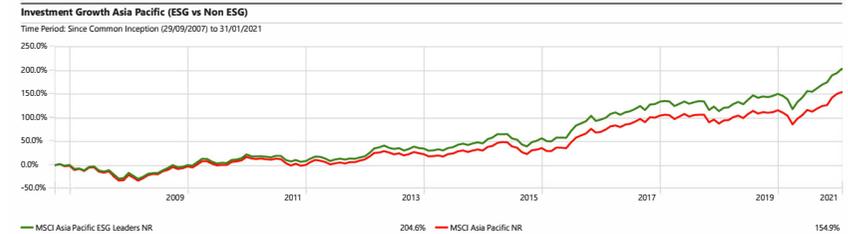
Source: Morningstar Direct



Ratio Table
 Time Period: Since Common Inception (01/09/2010) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|----------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI Europe NR | 7.62 | 13.48 | -21.41 | 16.00 | 0.36 |
| MSCI Europe ESG Leaders NR | 8.64 | 13.02 | -19.74 | 16.00 | 0.48 |

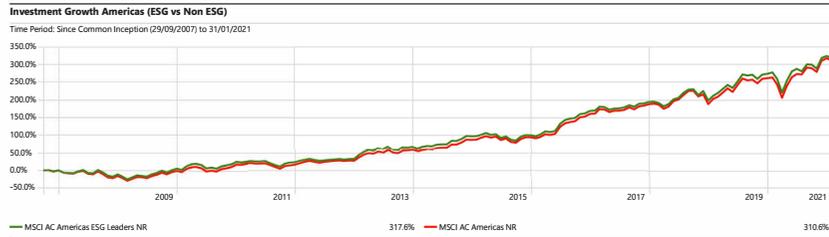
Source: Morningstar Direct



Ratio Table
 Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|-------------------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI AC Asia Pacific NR | 7.27 | 14.67 | -34.20 | 13.00 | 0.23 |
| MSCI AC Asia Pacific ESG Leaders NR | 8.71 | 14.09 | -30.57 | 12.00 | 0.32 |

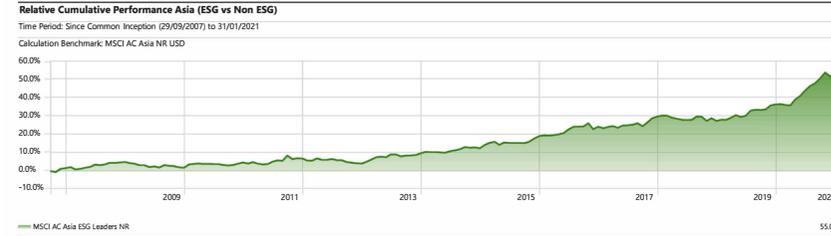
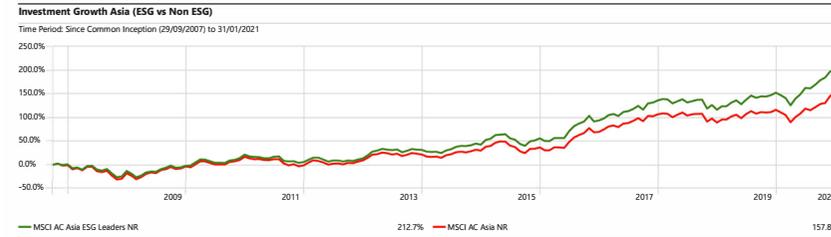
Source: Morningstar Direct



Ratio Table
Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|---------------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI AC Americas NR | 11.18 | 14.23 | -29.75 | 12.00 | 0.46 |
| MSCI AC Americas ESG Leaders NR | 11.32 | 14.06 | -26.30 | 10.00 | 0.47 |

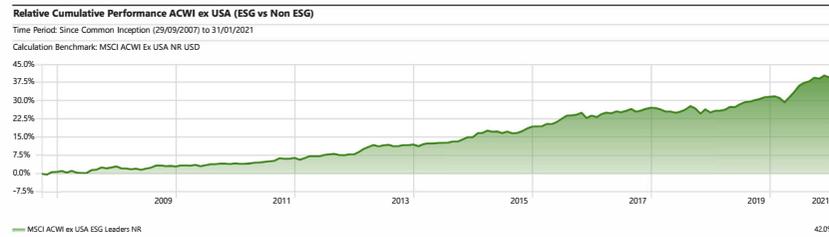
Source: Morningstar Direct



Ratio Table
Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|---------------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI AC Asia ESG Leaders NR USD | 8.93 | 13.63 | -27.74 | 16.00 | 0.34 |
| MSCI AC Asia NR USD | 7.36 | 14.27 | -32.44 | 17.00 | 0.24 |

Source: Morningstar Direct



Ratio Table
Time Period: Since Common Inception (01/10/2007) to 31/01/2021 Calculation Benchmark: None

| | Return | Std Dev | Max Drawdown | Max Drawdown Recovery # of Periods | Sharpe Ratio |
|-------------------------------------|--------|---------|--------------|------------------------------------|--------------|
| MSCI ACWI ex USA ESG Leaders NR USD | 7.80 | 14.65 | -35.99 | 13.00 | 0.21 |
| MSCI ACWI Ex USA NR USD | 5.51 | 15.13 | -38.25 | 13.00 | 0.13 |

Source: Morningstar Direct

Traditional wisdom has long dictated that an exposure to property was a fundamental building block (excuse the pun) in a well-structured portfolio, as it served to both dampen the volatility of equities and provide diversification. In addition, the so-called ‘home bias’ that investors engage in resulted in many UK investors with portfolios structured to include exposure to domestic direct property funds. As the bubble burst on the global property market boom in 2008, this notion was dealt a body blow, and the recent COVID-19 stock crisis has served to reinforce the fact that property can no longer be considered ‘safe as houses’ (indeed as the stock market crashed in March, all UK direct property funds were [suspended indefinitely](#)).

In contrast, EBI’s portfolios hold freely redeemable units in the iShares Global Property Securities Equity Index Fund, an indirect property unit trust that invests in publicly traded global real estate investment trusts. This REIT (Real Estate Investment Trust) fund was not exposed to illiquidity risks, whereas the direct UK property funds were exposed to underlying market and sector risks of global real estate. During the COVID-19 crash, underlying prospects for real estate darkened, as the demand for office space collapsed overnight and secular trends towards online shopping accelerated, undermining the occupier demand for retail space.

The purpose of this report is to explain the decision to remove the global real estate portion in EBI’s asset mixes, and to realign the portfolios utilising factors that retain the core traits of being persistent, pervasive, robust, investable and intuitive.

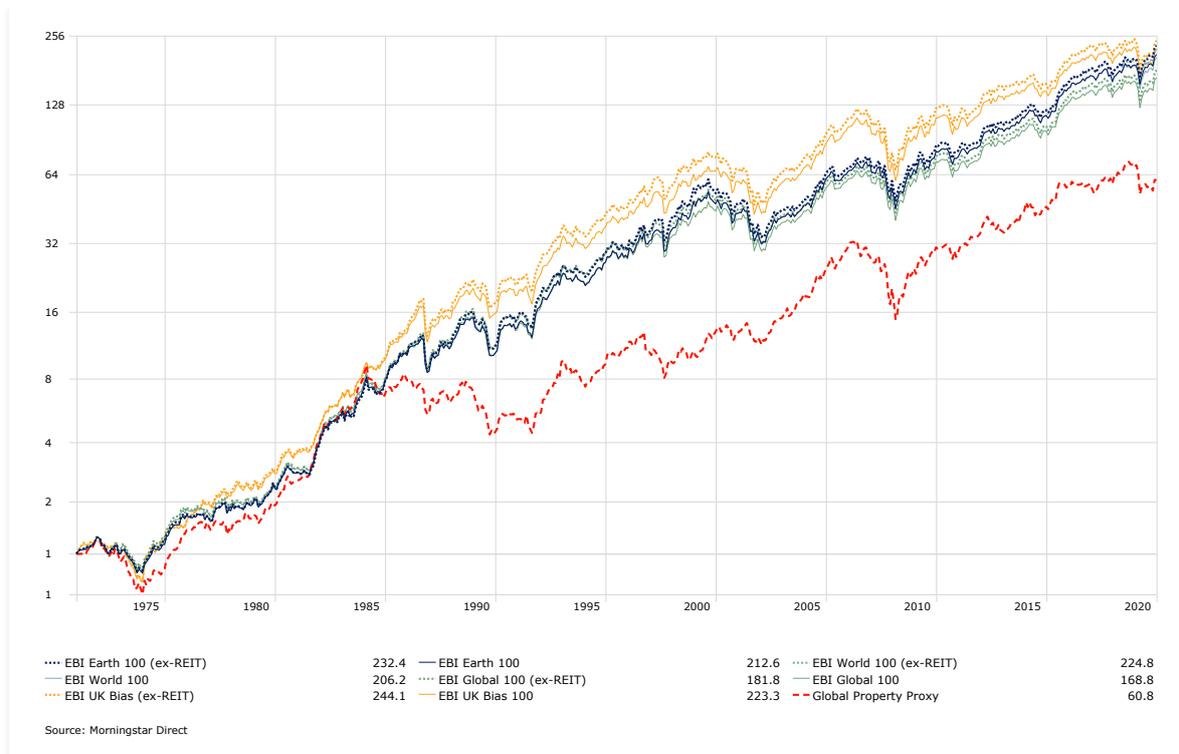


Chart 1: Long-run Returns for the EBI Funds With REITs and Ex-REITs

Long-run returns of the EBI products with REITs, and without (Ex-REITs)

We can see from the previous chart (Chart 1) that the long-run returns of each of the four suites are not only not impacted by the removal of real estate, but actually benefit from the removal of the REIT fund, with the relative impact compounding over time. Over shorter time frames, the relatively small portfolio weightings of REITs in the EBI portfolio asset mixes result in only small incremental gains to the overall portfolios. Over longer periods, however, the compounding effects of these incremental gains become more material and pronounced, both in terms of return and risk. This can be seen in the previous log scaled long-run investment growth chart using simulated and index data from 1972 (Chart 1). In each instance, the removal of the REIT results in appreciably better returns over the longer time period.

Differences between EBI’s portfolios

Exposures to the REIT fund in the legacy EBI portfolios range from 8.36% for Vantage Global 100 down to 8.22% for Vantage World 100 (with Vantage UK Bias 100 falling midway between the other two at 8.30%).

REITS Need-To Know – Why was it included until now?

- REITs help overcome a number of challenges to investing alongside factor-based strategies, including lower transaction costs, fractional lot size rather than large, liquidity and short-selling constraints.
- Real estate more generally is sensitive to fluctuations in long-term interest rates, and consequently has a high effective duration. Income producing properties are sensitive to the cyclical credit risk of the tenants. This means real estate has some of the characteristics of long-dated, high duration, corporate bonds.
- Underlying valuations of real estate are highly cyclical and change over time depending on the prevailing stock market regime. Volatility of REITS has been at elevated levels in the most recent decade compared to prior decades, according to a recent study by Guidolin & Pedio (Table 2).

| FTSE NAREIT All REITS Index performance over four sample periods. | | | | |
|---|------------------------------------|------------------------------------|-----------------------------------|---|
| | Full Sample Jan 1972 – Jul 2018 | Vintage Era Jan 1972 – Dec 1992 | Pre-Crisis Jan 1993 - Sep 2008 | Crisis and Post Crisis Oct 2008 – Jul 2018 |
| Annualized Return (%) | 10.8 | 9.8 | 12.0 | 10.6 |
| Annualized Volatility (%) | 17.4 | 16.6 | 13.9 | 23.2 |

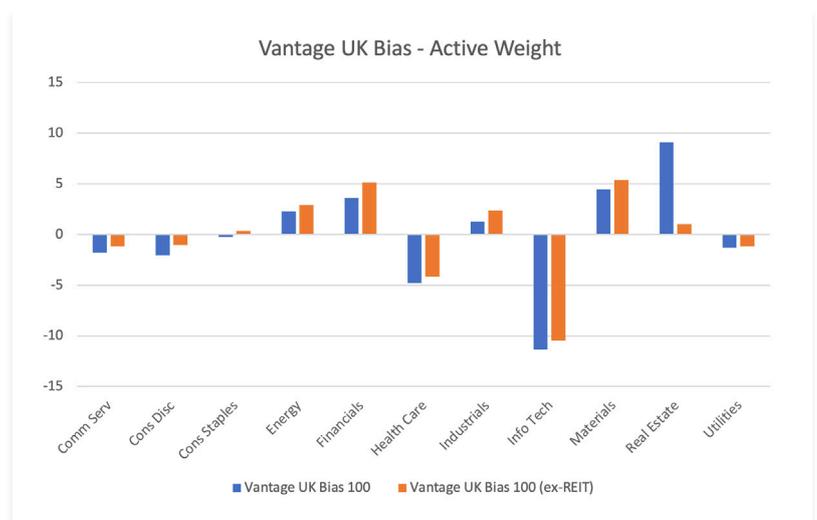
Table 2: FTSE NAREIT ALL REITS index performance and standard deviations from sample time periods Source: Massimo Guidolin & Manuela Pedio (2019) , data annualised.

Analysis Highlights: Sector Active Weights, Risk Attribution and Effective Stocks

Active weights can help quantify the degree of sector exposure and risk being taken. Here we display the Vantage UK Bias portfolio showing the portfolio with (blue) and without (orange) the REIT fund, and it’s clear that there is a significant active weighting and concentration risk in Real Estate.

The removal of the REIT reduces the active weightings in that sector by circa 8% to 8.4% in all cases. The significant overweight in the real estate sector also resulted in magnified sector underweights in other sectors, particularly Information Technology and Healthcare.

Naturally, the removal of the REIT and upweighting of the other exposures, increases the allocation to underweighted sectors and brings the portfolios closer to the benchmark. It has the opposite effect where the sectors have been over weighted, further increasing allocations to energy, financial and materials.



| Portfolio | Real Estate (%) |
|--------------------------------------|-----------------|
| Vantage Earth 100 | 8.48 |
| Vantage Earth 100 (excluding REIT) | 0.63 |
| Vantage World 100 | 8.65 |
| Vantage World 100 (excluding REIT) | 0.66 |
| Vantage Global 100 | 9.00 |
| Vantage Global 100 (excluding REIT) | 0.82 |
| Vantage UK Bias 100 | 9.08 |
| Vantage UK Bias 100 (excluding REIT) | 1.01 |

Table 3 – Sector Active Weightings for Real Estate

Risk analysis using the Style Analytics risk attribution model gives us the ability to evaluate Market and Sector risk by seeing how the risk is distributed in the EBI suites of portfolios with and without the REIT.

The highlighted columns labelled “X’terms” quantify the costs (positive values) and benefits (negative values) from diversification being obtained in the portfolio by the prevailing distribution of risks between ‘Market and Sector’ and ‘Sector and Style’. A negative X’terms value denotes a positive benefit from diversification of risks.

| Portfolio | Market | Sector X’terms | Sector | Style X’terms | Style |
|--------------------------------------|--------|----------------|--------|---------------|-------|
| Vantage Earth 100 | 16.55 | 8.57 | 25.79 | 5.84 | 15.26 |
| Vantage Earth 100 (excluding REIT) | 29.10 | -4.63 | 9.69 | 8.43 | 17.17 |
| Vantage World 100 | 8.45 | 4.19 | 27.47 | 2.46 | 22.00 |
| Vantage World 100 (excluding REIT) | 12.08 | -2.16 | 12.58 | 4.08 | 23.72 |
| Vantage Global 100 | 3.09 | 1.52 | 34.07 | 31.33 | 15.01 |
| Vantage Global 100 (excluding REIT) | 4.62 | -2.07 | 31.96 | 33.61 | 15.92 |
| Vantage UK Bias 100 | 55.72 | 15.44 | 14.58 | 20.12 | 6.93 |
| Vantage UK Bias 100 (excluding REIT) | 60.68 | 12.35 | 14.05 | 21.29 | 6.62 |
| iShares Global Property | 1.17 | -3.14 | 88.49 | 6.47 | 1.97 |

Table 4 - Risk Attributions and X'Terms

The Markets column displays the score of risk attributable to the global equity market (Morningstar Global Markets benchmark). As might be expected, the removal on the REIT and upweighting of the other funds in its place, increases the risk attributable to the market. The Earth portfolios display particularly large changes in Market risk attributable, we believe, to the higher weight in REITs and larger exposure to mega-cap securities in that portfolio.

The Sector column displays the score of risk attributable to the sector exposure of the portfolios. We can see that in all scenarios the sector risk has been reduced, most notably in the Earth portfolios. The Earth portfolio sees a larger change as it has the highest active weight in property, relatively to its other active weights compared against the portfolios.

The Sector X'Term (Cross Term) is a measure of how the portfolio’s holdings in the Market/Sector co-vary and to what extent the specific sector risk incurred interacts with market risk. A positive Cross Term would indicate some undesirable concentration and reinforcement of sector risk due to the correlation between Sector and Market risk. A more negative Cross Term score is a positive since it indicates the Market/Sector risk incurred is accruing benefits from diversification. The removal of the REIT reduces the sector concentration risk dramatically and reduces the sector Cross Terms with the market to a more neutral score, excluding EBI’s UK Bias portfolio.

The Style column displays the score of risk attributable to the Style/factor allocation. We can see small changes in World, Global and UK Bias, but a large increase change in the Earth portfolios. This may be attributable to the Size factor exposure. The Earth portfolios have the largest average market-cap of EBI’s portfolios, notably to the exclusion of companies with low ESG scores, that tend to be smaller, and the increased allocation to companies to high ESG scores, that tend to be larger. The removal of the REIT

increases market risk in the Earth portfolios significantly and upweights the style risk in the Earth portfolios which have paid off in recent times owing to higher returns of those larger companies.

Overall, by removing the REIT, the sector concentration risk is reduced and transferred to the market.

Actual & Effective stocks

| | Portfolio Actual Stocks | Benchmark Actual Stocks | Portfolio Effective Stocks | Benchmark Effective Stocks |
|-------------------------------|-------------------------|-------------------------|----------------------------|----------------------------|
| Vantage Earth 100 | 8,270 | 7,511 | 349 | 281 |
| Vantage Earth 100 (ex-REIT) | 8,228 | 7,511 | 300 | 281 |
| Vantage World 100 | 8,591 | 7,511 | 594 | 281 |
| Vantage World 100 (ex-REIT) | 8,508 | 7,511 | 520 | 281 |
| Vantage Global 100 | 8,756 | 7,511 | 423 | 281 |
| Vantage Global 100 (ex-REIT) | 8,661 | 7,511 | 363 | 281 |
| Vantage UK Bias 100 | 9,061 | 7,511 | 429 | 281 |
| Vantage UK Bias 100 (ex-REIT) | 8,974 | 7,511 | 369 | 281 |
| iShares Global Property | 333 | | 99 | |

Table 5 - Portfolio Risk Metrics – Actual and Effective Stocks

Another measure of risk can be explored using measures of portfolio concentration, such as effective stock ratios. Table 5 shows both the actual and effective stocks (highlighted in yellow) for each portfolio alongside the global benchmark. We can see that the removal of the REIT reduces the actual number of stocks in all portfolios and has a large impact of the portfolio effective stocks.

The effective number of stocks in a portfolio considers the level of concentration of the portfolio stock weightings and is simply calculated by taking the inverse of the sum of the squared weights in the portfolio; the higher the number of effective stocks, the lower the concentration. Whilst the removal of the REIT increases concentration amongst all portfolios, the effective stock level is still comfortably above that of the benchmark’s and remains highly diversified. In other words, we still have a highly diversified portfolio after removing REITs, so the argument to leave them in for the sake of diversification does not stand up to scrutiny.

We can see that the Earth portfolios have a lower number of effective stocks than the other portfolios. The effective number of stocks is defined as “1 divided by the sum of the squared stock weights”. Compared to the other suites, the Earth portfolios have a higher average weighted market-cap with a higher concentration to large-cap and mid-cap stocks leading to a lower calculated effective stocks value. However, we can see that this still leaves us with more effective stocks in our Earth portfolio after removing REITs (300) than can be seen in the benchmark (281).

Scenario Analysis – Crash-testing REITS

Crash testing the EBI portfolios with and without REITS enables us to backtest the impact of recent events on portfolios.

Scenario Analysis – Crash-testing REITS: Charts

Chart 2 plots the performance of the EBI portfolios and the iShares Global Property during the 2007-2009 subprime crisis scenario, as we can see that the iShares performs far worse than the EBI portfolios (excluding the REIT).

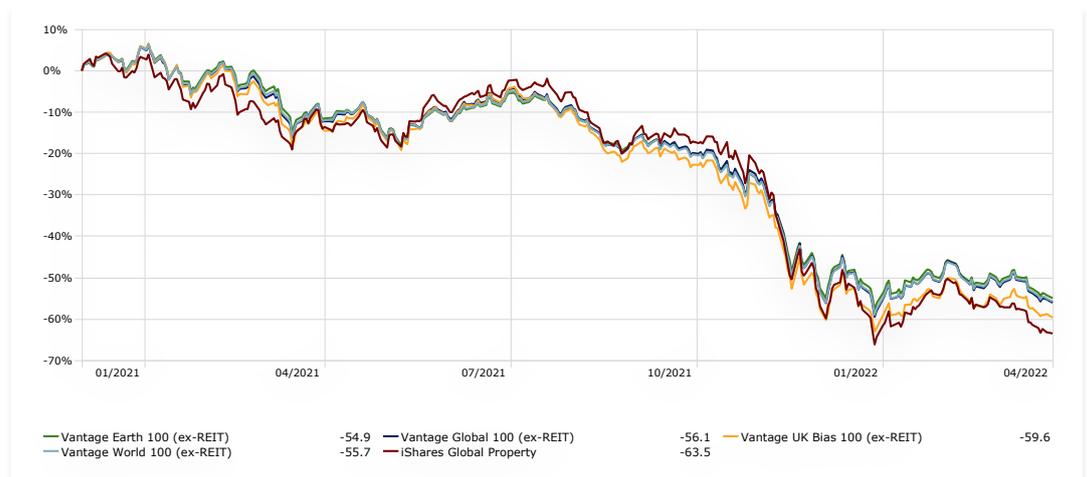
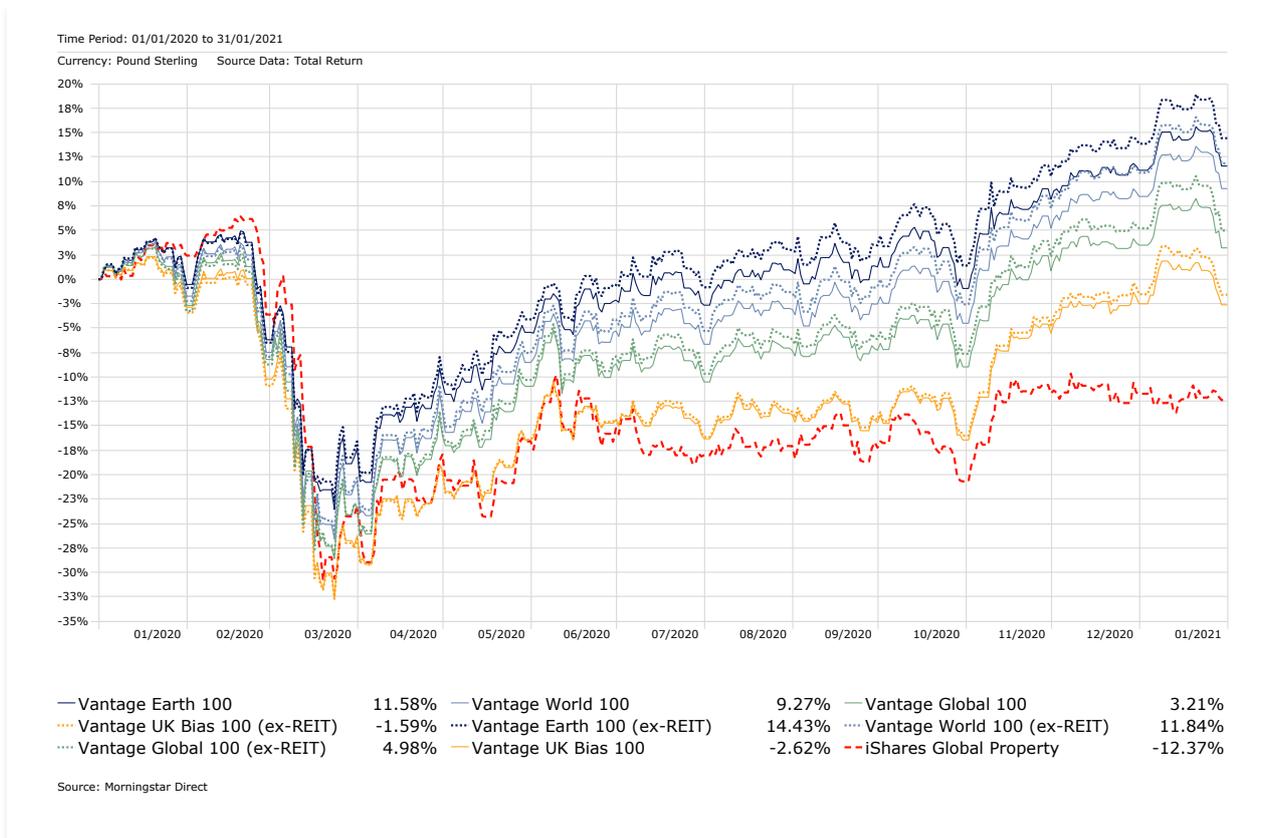


Chart 3 plots the performance of the EBI portfolios with and without the iShares Global Property fund during the recent pandemic.

We can see the iShares Global Property fund performed comparatively poorly throughout the 2007-09 Subprime crisis and also during the global pandemic. Returns are higher in both crises if the REIT fund is removed.



Conclusion and Recommendations

The large sector concentration in real estate served to magnify risks that are not being compensated. Overall, property has failed to fully deliver on its desired result of harvesting maximum benefits of diversification. The small size of the current portfolio weighting (c. 8.25%) to property fails to generate any significant benefits, either from a reduction in volatility or from improved excess returns. An increase in the allocation to property would likely further reduce returns and increase volatility in a crisis that displays similar characteristic to the 2007-2008 financial crash or the recent global pandemic, whilst also providing little protection in times of strong market volatility.

An analysis of the portfolio’s historical performance, compared to a portfolio without property illustrates that the REITs have had a drag on performance, worsened maximum drawdowns and had little effect in reducing volatility and systematic (market) risk. The removal of the REIT allows us to align our exposures to factors that have shown increased adherence to our desired characteristics when used in concert. With the addition of minimum volatility as a factor, and factor allocations that are equal (emerging markets is weighted differently, but is not a factor per se), we can achieve greater returns, with reduced volatility, lesser drawdowns, and faster rebounds from those drawdowns. This was seen to be the case across the board in a [backtest we conducted against our existing portfolio suites](#).



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Suite 7, Beecham Business Park, Northgate, Aldridge, WS9 8TZ



01922 472 226



ebi.co.uk



enquiries@ebi.co.uk

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